

The Cost of Housing Instability: The Effect on a Child's Literacy Skills

Thesis

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with Honors Research Distinction

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Abstract

The present study assesses the consequences of housing instability on childhood literacy skills. Housing instability encompasses a variety of housing related issues, such as crowding, frequent moves, housing status, and an inability to pay rent. Housing instability has been associated with childhood outcomes and can negatively affect a child's education and health. Using data from wave 5 of the Fragile Families and Child Well-being study, this study examines the relationship between housing instability and literacy skills in 9-year-old participants. This study has three dependent variables that capture literacy skills: (1) standard scoring on the Peabody Vocabulary Test, (2) primary teacher assessment of spelling, and (3) primary teacher assessment of reading. The independent variable of this study is housing status operationalized as free, rental, or owned housing. Pearson's Chi Squared tests, T-tests, One-Way Analysis of Variance (ANOVA), Post-hoc Tukey's Honest Significant Difference test, and an OLS Regression model were conducted to assess the relationship between housing instability and childhood literacy skills. The findings of this study show that there is a significant relationship between housing instability and literacy skills. Children residing in rental housing reported significantly lower reading, spelling, and vocabulary skills. Children of homeowners displayed overall higher literacy skills compared to children of renters and children residing in free housing.

Dedication

I dedicate this thesis to my grandmother, Eulah Patton, and my sister Kadynce Roberts for their unwavering love and support.

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I would like to thank Dr. Donna Ruch and Dr. Stacey Saunders-Adams for introducing me to research. I would also like to thank Jennie Babcock for her support and encouragement throughout the honors process. Lastly, I would like to thank my thesis advisor, Dr. Njeri Kagotho, for her guidance and patience throughout the process of completing this thesis project.

Curriculum Vitae

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Major Field of Study

Social Work

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Chapter 1: Introduction

Housing instability is a complex issue that has roots in poverty, public policy and periods of financial crisis. Housing instability has been historically linked with hardship and poverty and has been negatively associated with the educational and health systems, with unaffordable housing serving as a primary factor in both health and educational issues. In existing studies, the term housing instability is used to encompass a variety of housing related issues and includes difficulty paying rent, evictions, foreclosure, frequent moves, inadequate housing, doubling up, and homelessness (Kushel, Gupta, Gee & Haas, 2006).

Research has found that housing instability is becoming more and more prevalent amongst urban families, with notable increases occurring during times of financial crises (Desmond & Kimbro, 2015). The Great Depression brought notable increases in household instances of foreclosure, evictions, overcrowding, and homelessness (Wheelock, 2008). Increased instances of housing instability were observed during the recession of the 1980s, with ties to increasing housing costs and decreased rates of housing assistance (Desmond & Kimbro, 2015). Housing instability became especially severe in 2006 with the onslaught of the Great Recession, which is strongly correlated with the collapse of the housing sector and a period of high unemployment rates among U.S. families (Ellen & Dastrup, 2012).

Decreases in public assistance continue to be detrimental to impoverished, urban renters. Low-income households are often forced to allocate more than half of their income to housing costs due to increased costs of rent. The observed lack of affordable housing is forcing urban families to reside in low grade rental housing, with families often facing poor housing conditions. If a family is unable to locate affordable housing, they are subject to instances of eviction, overcrowding, and homelessness. (Desmond & Kimbro, 2015).

In the absence of stability, children are more likely to experience a variety of troubles in several domains of life; this can range from educational deficits to psychological issues (Desmond & Kimbro, 2015). Families experiencing housing instability are more likely to experience periods of stress and educational instability, both of which are also negatively associated with a child's academic success and the likelihood that they will earn a high school diploma (Desmond & Kimbro, 2015). Additionally, researchers Glendening and Shinn found that families with past experiences of housing instability are more likely to experience the same type of instability in the future which can further influence childhood outcomes (Glendening & Shinn, 2017).

Research shows that housing instability can serve as a predictor for poor childhood literacy skills. A study examining the relationship between housing and literacy achievement among children in a South African community found that children residing in poor housing conditions experienced a decrease in literacy achievement when compared with those who did not (Pillay, 2017). Cunningham and Macdonald (2012) found that children of low-income renters generally have high residential mobility rates and are more likely to report low reading scores. Similarly, a longitudinal study by Haurin, Parcel, & Haurin (2002) found that homeownership can increase reading achievement by up 7%.

The present study will examine the correlation between housing instability and a child's literacy skills. By understanding the association between housing instability and literacy, this study hopes to expand on the educational outcomes of those experiencing childhood housing instability. Literacy was chosen as a study variable because of the importance of average literacy skills for successful transitions into adulthood (National Center for Education Statistics, 1999).

Additionally, literacy skills have been identified as an essential benchmark in early learning standards across the United States (Scott-Little, Kagan, & Frelow, 2006).

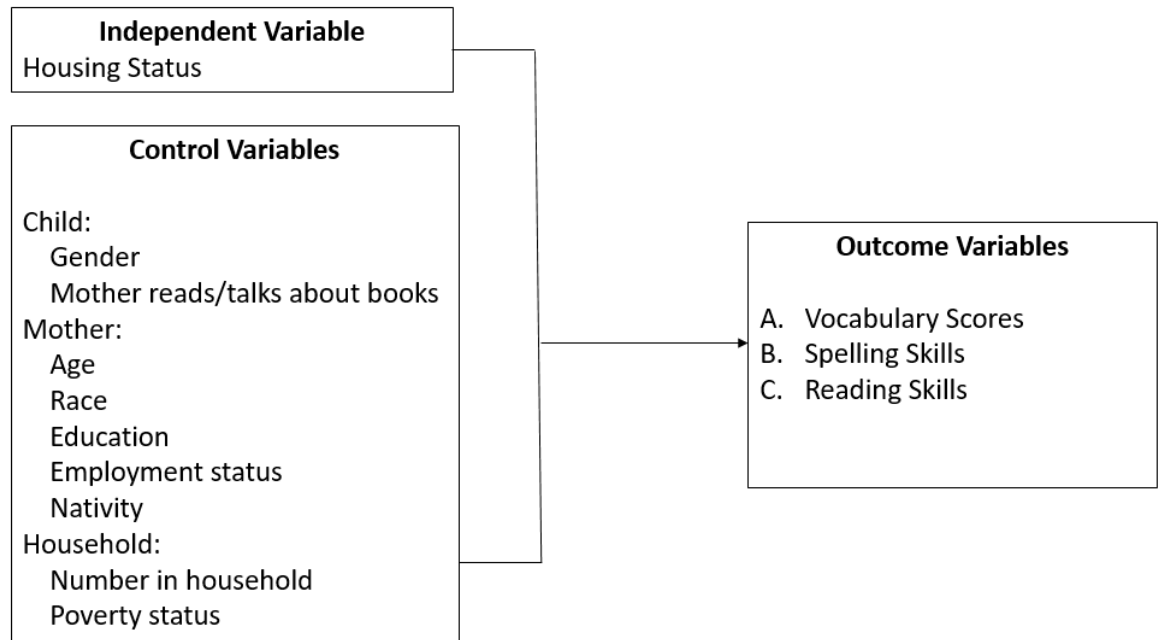
The present study measures housing instability by housing status. Literacy will be measured using scores on the Peabody Vocabulary Test administered by researchers of the Fragile Families and Child Well-being, and teacher assessments of both reading and spelling skills. To achieve this aim, publicly available data from wave 5 of the Fragile Families and Child Wellbeing Study will be analyzed using bivariate and OLS regression analysis in Stata. It is hypothesized that instances of housing instability negatively affect a child's literacy skills.

Research Aims:

The aims of this study are as follows:

1. To examine child and parental factors associated with literacy skills.
2. To determine if housing instability affects vocabulary skills by analyzing scores on the Peabody Vocabulary Test administered by the Fragile Families researchers.
3. To determine if housing instability affects reading and spelling skills by analyzing teacher assessments of focal child.

Conceptual Model



Chapter 2: Literature Review

Outcomes of Housing Instability

Impoverished families are facing the worst affordable housing crisis in recent history. Individuals, especially single mothers, are allocating most of their income to housing costs, which leaves a disproportionate amount of funds for food, medicine, and other necessities (Desmond & Kimbro, 2015). The increasing price of rent combined with high unemployment rates serves to increase the financial burden on low income renters, especially because housing assistance resources fail to match the increase of individuals eligible to receive federal housing assistance (Ellen & Dastrup, 2012). Increased costs of rent, combined with major funding cuts to the Department of Urban Housing and other welfare programs in the 1980s, have been cited as major contributing factors for housing instability (Nichols & Gault, 2013).

Housing instability has no standard definition. It encompasses a variety of housing related issues such as residential mobility, overcrowding, household status, and household affordability. This issue has been tied to a wide array of negative developmental and psychological outcomes. Childhood experiences with housing instability can be detrimental to emotional well-being, with individuals reporting feelings of impermanence and a loss of autonomy and privacy (Glendenning & Shinn, 2016).

Past experiences with housing instability are associated with poor academic performance. Evidence has linked housing instability with poor child behaviors, poor parent-child interactions, and poor childhood health outcomes, all of which can negatively influence educational outcomes (Lopoo & London, 2016). This issue has been associated with lower math and reading skills in

school age children (Nichols & Gault, 2003), as well as deficits in math and literacy skills in early childhood (Schmitt & Lipscomb, 2016).

Housing Status

Housing status can be defined as an array of housing options, such as rental, public, free or owner occupied housing. Free housing options include living with others or residing in temporary, treatment, and/or shelter housing. Research has found that housing status can affect a variety of social conditions, and has been negatively associated with educational attainment, community health, childhood behavioral problems, and criminal behavior. Homeownership has been found to produce better childhood outcomes than any other housing option because it promotes residential stability and decreases mobility. Research has found that homeowners have an increased investment in neighborhood social capital compared to renters (Gagne & Ferrer, 2006).

Researchers Read and Tsvetkova (2012) found that homeownership contributes to the academic success of children. Children that reside in homes owned by their guardian are less likely to drop out of school and are more likely to pursue post-secondary education (Haurin, Parcel, and Haurin 2002). They also perform better on standardized tests in both math and reading than do children of renters, and demonstrate overall higher reading skills.

There is little disagreement in available research that children residing in public housing are more likely to live in economically disadvantaged areas; however, public housing is not negatively associated with academic success (Read & Tsvetkova, 2002). Overcrowding, or residing with others in a single family home, is also associated with low household income. Household overcrowding is correlated with poor school attendance, poor educational

performance, and decreased high school graduation rates (Lopoo & London, 2016). Additionally, a study by Conley (2001) found that parents of children living in overcrowded residences were more likely to report that their children had difficulty finding places to study and that adult individuals who have previously experienced childhood overcrowding had less years of schooling compared to individuals that did not (Conley, 2001).

Research has found that very low-income families move frequently, with urban renters among those that move the most. Demographically, single family households with children between the ages of one to four experience the highest rates of mobility, with life transitions and poverty cited as major contributors. Individuals in urban areas were also found to be more likely to experience higher rates of frequent moves than those in suburban or rural areas (Long, 1992).

Regarding educational outcomes, researcher Larry Long (1992) found that children that experience frequent household moves are more likely to contend with social stress, fall behind in school, and experience decreased rates of high school completion. High rates of residential mobility also limit families' abilities to accumulate and use age-appropriate learning materials, such as books, puzzles, and computers. In terms of neighborhood quality, families that experience frequent moves are more likely to relocate to impoverished neighborhoods with decreased school quality, instead of seeking out better housing and educational opportunities (Nichols & Gault, 2003). Additionally, impoverished housing conditions limit space for parents to engage children in learning (Leventhal & Newman, 2010).

Similarly, a study by Desmond and Kimbro (2015) highlighted the correlation between high rates of eviction and poverty among minority renters in urban areas. They found that increased rates of evictions are often correlated with higher rates of household moves and instances of homelessness. They determined that household evictions and frequent household

moving can negatively affect school stability, which includes positive school performance and increased graduation rates among children (Desmond & Kimbro, 2015).

Theory

Housing instability can be situated in the context of child development theory, with Bronfenbrenner's Ecological Approach to Human Development stressing the importance of home stability in the formation of positive childhood experiences. Researcher Urie Bronfenbrenner (1979) stated that child development is influenced by interactions with the environment. Bronfenbrenner defined the environment as having five different levels, all of which work simultaneously to influence child development. The most intimate level is the microsystem, which is a child's immediate environment; it includes the individuals, groups, and institutions that directly influence child development. The microsystem has been cited as having the greatest influence on child development because of the inclusion of both the home and the classroom.

According to the Ecological Approach, a deficit in a child's home life can have a lasting effect on their overall well-being. Regularity and stability in the early learning environment is essential to positive child development (Cole & Cole 1993). Thus, high rates of school mobility can drastically affect educational outcomes, including decreased reading achievement in early childhood. Researchers Snow, Burns, & Griffin (1998) found that a disruption in the home, family, or classroom significantly increases the risk of delayed reading skills. Thus, this study will explore the correlation between the housing instability and literacy skills using Bronfenbrenner's Ecological Perspective.

The Current Study

Researchers have investigated the link between housing instability and educational outcomes and have found the effects to be devastating. The negative effects of both persistent poverty and housing instability reverberates across all facets of life and can impact a child's school readiness, as well as their physical and emotional health. In accordance with Bronfenbrenner's theory, these negative childhood experiences can drastically impact developmental outcomes (Ziol-Guest & Mckenna, 2013).

Researchers agree that there is an association between housing instability and negative educational outcomes, with studies tying housing instability to issues such as poor school attendance, poor educational performance, decreased years of schooling, decreased graduation rates, delays in cognitive abilities and development, as well as poor school readiness. Furthermore, housing instability has been positively correlated with higher rates of chronic stress and poverty (Long, 1992; Dewit, 1998).

This study seeks to explore the effect that housing instability has on a child's literacy skills by examining data from the Fragile Families and Child Well-being Study. This study will examine the association between housing instability and literacy in wave 5 of the Fragile Families Study by conducting data analysis via Stata. The anticipated results of this study are that there will be a significant link between housing instability and literacy skills; however, the results may not be generalizable nationally because of the limited sample size in each urban city, as well as participant differences across sample cities.

Current research concerning the associated outcomes of housing instability primarily focus on chronic health outcomes, as well as general educational outcomes. This study specifically focuses on literacy because it is the main vehicle by which academic achievement is obtained by U.S. students. Effective literacy instruction can aid a child in the development of

linguistic and cognitive abilities essential for learning. Therefore, the development of literacy skills is of critical importance during a child's elementary education. Wave 5 of the Fragile Families and Child Wellbeing Study was selected due to the likelihood that deficits in literacy skills, if any, will be observable by the time the focal child is receiving 4th grade language arts instruction.

Chapter 3: Methodology

Sample

The present study utilized a cross-sectional design to analyze data collected from the Fragile Families and Child Wellbeing Study. The Fragile Families and Child Wellbeing Study is a longitudinal study designed to examine parental capabilities and childhood outcomes, with questions regarding parent and child demographics, neighborhood qualities, housing, relationships, health, and education being answered using interviews, surveys, and in-home assessments. Sampling occurred in large, urban U.S. cities among expectant mothers identified as fragile. Participants were labelled fragile if they reported that they were unmarried. Researcher's chose the term "fragile families" to underscore that participating families are at greater risk of breaking up and living in poverty than more traditional families due to their unmarried status. The study of five waves of data from approximately 4,898 participants from 75 hospitals across 20 major U.S. cities (McLanahan, Garfinkel, & Waldfogel, 1998).

To determine participants, the study utilized a random stratified sample of 20 U.S. cities with 200,000 or more residents. Data was collected using a combination of surveys, home assessments and telephone interviews. Surveys were administered to parents, children, and teachers during wave 5 of the Fragile Families study, when the child was approximately 9 years of age. Data was collected from the wave 5 mother and teacher surveys. Interview questions include yes or no, multiple choice, and some fill in the blank. Wave 5 data collection occurred from 2007 to 2010 (Reichman, Teitler, Garfinkel, & McLanahan, 2001).

The present study limited the sample to those birth mothers (N=2054) who reported that the focal child lives with them all or most of the time. The present study excluded 1,383 mothers

who were either not surveyed during wave 5 of the Fragile Families Study or who reported that they did not live with their children. Additionally, the data was subset to include only those focal children whose teachers responded to the teacher survey. This excluded 1,741 teachers from the overall sample. The final sample size was 2054 mothers, teachers, and focal children who had complete data for all study variables.

Measures

The present study has three dependent variables that capture literacy skills: (1) scoring on the Peabody Vocabulary Test and (2) teacher assessments of spelling and reading. The Peabody Vocabulary Test was administered by researchers to measure receptive vocabulary and screen for verbal ability. The test is administered with an “easel” or activity book. The interviewer reads a word and asks the child to identify the picture in the easel that corresponds to that word. The total score can be converted to a percentile rank, mental age, or a standard deviation IQ score. Reading and spelling skills were measured using a Likert scale. Teachers were asked if, “The child is poor in spelling.” Answers ranged from poor to average to excellent. Teachers were also asked, “The child is not reading up to par?” Answers ranged from poor to average to excellent (McLanahan, Garfinkel, & Waldfogel, 1998).

The independent variable of this study is housing status. Housing status includes both stable forms of housing, such as homes that are owned, and unstable forms of housing, such as rental and temporary housing, residing with others, and instances of homelessness. Participants were asked a categorical question about their current housing situation. Responses include “rent your own house or apartment”, “live with others who rent”, live with others who own”, “own your own house”, “live in housing owned by another”, “live in temporary housing”, or “some other housing arrangement (McLanahan, Garfinkel, & Waldfogel, 1998).”

A new housing variable was generated using the housing variable from waves 2, 3, 4, and 5 of the Fragile Families Study was generated to account for missing data. The categories are “free”, “pay rent”, and “own.” Participants categorized as living for free were those who indicated that they lived in housing owned by another, lived in temporary housing or a shelter, live with family or friends, are homeless, or are living in some other housing arrangement. Those coded as ‘pay rent’ lived in a rental house or apartment while those living in a home that they owned were coded as ‘own.’ Missing data for the housing status variable was due to a valid skip. Data from the baseline wave, and waves 2,3, 4, and 5 were merged to account for missing housing and demographic data. The participants were asked, “Have you moved in the last four years?” If the answer was no, the housing section of the survey was skipped because all housing data was included in a previous wave.

The following variables were included in the final regression model as control variables. Demographic characteristics including mother's age, race, employment status, mother's education, number of people in household, child gender, poverty status, nativity, and frequency that the parent reads to the child per month. A continuous variable was constructed using information from the core surveys and parent questionnaires to capture mother's age at the time of the interview. Race was captured using an unordered categorical question contained in the baseline wave. Participants were asked, “Which of these categories best describes your race?” The categories are “White”, “Black-African American”, “Hispanic”, “Asian or Pacific Islander”, “American Indian”, and “Other- Not Specified (McLanahan, Garfinkel, & Waldfogel, 1998).”

Participants were asked a categorical question regarding their educational attainment. Responses include, “less than high school”, “high school or equivalent”, “some college”, and “college or graduate.” This study captured household income using the poverty ratio included in

wave 5 of the Fragile Families and Child Well-being study. The poverty category represents the ratio of total household income as designated by the U.S. Census Bureau. For each wave, poverty thresholds for the year preceding the interview were used to construct the poverty category. A nominal variable contained in the mother survey of the baseline wave captured child gender. Participants were asked a dichotomous question, "Were you born in the US?", in the baseline wave to determine nativity. Responses were either yes or no.

To determine the number of people in the mother's household, participants were asked "Not including yourself and child, how many people are currently living with you? The response was fill in the blank. Participants were administered a Likert scale to determine the frequency that they read to their child. Responses ranged from "never", "1-2 times a week", "once a week", "several times a week", and "every day." An employment status variable was generated using number of weeks worked and the categories are below 46 hours and full-time. The number of weeks worked was determined by figures reported from the Pew Research Center which reported that the average worker worked 46.8 hours per week in 2015 (Pew Research Center, 2016). Wave 5 of the Fragile Families study did not include a marital status variable in the mother survey. Marital status could not be captured due to the exclusion of "single" as an option for relationship status.

Data Analysis

Data analysis was conducted via Stata version 16 (StataCorp. 2019. Stata Statistical Software: Release 16. College Station, TX: StataCorp LLC). Univariate analysis was conducted to describe the sample population. Pearsons Chi Squared tests were conducted to assess the relationships between categorical study variables. T-tests were used to determine the association between continuous and nominal variables. One-Way Analysis of Variance (ANOVA) and post-

hoc Tukey's Honest Significant Difference test was used to assess statistical mean differences across variables with three or more categories. Finally, an OLS Regression was used to estimate the relationships between the housing instability and literacy.

Chapter 4: Results

Descriptive Statistics

Out of the 4,898 participants in the Fragile Families Study, the present study included 2,054 mothers' that identified themselves as the primary caregiver for the focal child (N=2,054) all or most of the time (see Table 1 Descriptive Statistics). As shown in Table 1, a majority of mothers reported that they live in rental housing (62.66%). 29.36% of mothers reported that they own their own home while only 5.55% of mothers reported that they live in free housing. When surveyed about literacy, the teacher sample reported that 48.54% of the child participants displayed excellent reading skills, while 41.97% of participants displayed excellent spelling skills. The mean standard vocabulary score was 93.93 on a scale of 0 to 160. This score is in the average range as reported by Pearson (Dunn & Douglas, 2007).

A majority of the sample identified as African American (48.05%), with 24.83% of respondents identifying as Hispanic, 23.32% identifying as Caucasian, and 3.65% identifying as other. The mother's mean age was 34 years, with a range of 23 to 54 years. The average reported household size was 2.87 individuals. The majority of respondents reported a low household income, with 35% of respondents reporting a poverty category of below 100% of the federal poverty line. This means that their income falls below the national poverty line. Among the sample, the spread between employment levels was even with 51.27% of respondents reporting that they work full-time. Regarding parental involvement, only 38% of mothers reported that they read to their child at least several times per week.

Regarding parental educational levels, 31.97% of the sample reported that they had obtained a High School Diploma or equivalent, while 29.14% of respondents reported an

educational level of less than high school. Respondents from the United States comprised 85% of the sample; out of 2,054 respondents, only 288 were foreign-born. Of the 2,054 focal children included in the study, 51.70% were assigned male at birth while 48.30% were assigned female. Each child respondent was approximately 9 years of age and a majority were in 3rd grade during wave 5 of the FFCWS study.

Table 1. Characteristics of children living with mothers (N=2054)

<i>Categorical variables</i>	<i>Percent</i>	<i>n</i>
Housing status		
free	5.55	114
pay rent	62.66	1287
own	29.36	603
.	2.43	50
Child Gender		
Male	51.70	1,062
Female	48.30	992
Mother Race		
White	23.32	479
Black	48.05	987
Hispanic	24.83	510
Other	3.65	75
.	0.15	3
Foreign born		
USA born	85.78	1,762
Yes	14.02	288
.	0.19	4
Mother's Education		
< HS	29.11	598
HS	31.94	656
some college	27.02	555
College +	11.83	243
.	0.10	2
Number of weeks' mother worked during 12-month period		
below 46	48.73	1,001
full time	51.27	1,053

Poverty Category		
below 100	35.15	722
below 200	29.16	599
below 300	14.56	299
300 +	20.74	426
.	0.39	8
Parent read/talked about book with child in past month		
Not once	4.63	85
1-2 times	9.64	198
Once a Week	15.00	308
Several Times a Week	38.27	786
Every day	32.42	666
.	0.05	1
Child Reading Skills		
Poor	16.02	329
1	14.80	304
2	20.16	414
Excellent	48.54	997
.	0.49	10
Child Spelling Skills		
Poor	12.87	263
1	15.57	318
2	29.37	600
Excellent	42.19	862
.	0.54	11
<i>Continuous variables</i>	<i>Mean</i>	<i>Std.</i>
Peabody Standard Score	93.92	15.10
Household Size	2.87	1.43
Mom age	34.60	6.075

Bivariate Results

Chi square tests and One-Way Analysis of Variance (ANOVA) were conducted to examine the relationship between child spelling skills and the independent and control variables (See Table 2- Spelling Bivariate). Teachers identified a majority (42.19%) of the focal children as being excellent spellers. Children of renters (N=1278) and children residing in free housing

(N=114) were more likely than children of homeowners (N=602) to report below average spelling skills ($\chi^2 (6, N = 1994) = 49.07, p = 0.000$). Spelling skills were significantly associated with gender, race, and mother's education. Among the sample, males (N=1056) were more likely than females (N=987) to report poor spelling skills ($\chi^2 (3, N = 2043) = 38.71, p = 0.000$). Children of African American and Hispanic (N=978) descent reported significantly lower spelling skills when compared to children of Caucasian descent (N=477) ($\chi^2 (9, N = 2040) = 24.85, p = 0.003$). Children with mother's who earned a college degree or higher (N=795) reported significantly higher spelling skills compared to those children of mother's that reported earning a high school diploma or below ($\chi^2 (9, N = 2041) = 66.97, p = 0.000$).

Table 2. Characteristics of respondents by spelling skills

Variables	Poor (N= 263)		Below Average (N=318)		Average (N=600)		Excellent (N=862)		Chi-square test
<i>Categorical variables</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>P</i>
Housing Status									0.000
Free	15.93	18	15.93	18	31.86	36	36.28	41	
Rent	14.60	187	17.80	228	29.43	377	38.17	489	
Own	8.83	53	10.17	61	28.17	169	52.83	317	
Child Gender									0.000
Female	15.63	165	16.57	175	31.82	336	35.98	380	
Male	9.93	98	14.49	143	26.75	264	48.83	482	
Race of mother									0.000
White	8.14	39	12.73	61	17.75	85	61.38	294	
African American	20.94	205	15.22	149	21.45	210	42.39	415	
Hispanic	14.96	76	17.32	88	20.67	105	47.05	239	
Other	12	9	8.00	6	17.33	13	62.67	47	
Nativity									0.456
Born in US	13.31	233	15.36	269	29.18	511	42.15	738	
Born outside of US	10.07	29	17.01	49	30.56	88	42.36	22	

Mother's Education									0.000
less than high school	16.53	98	20.40	121	31.37	186	31.70	188	
High school	13.94	91	14.40	94	30.02	196	41.65	272	
some college	10.31	57	14.83	82	27.31	151	47.56	263	
college degree+	7.02	17	8.68	21	27.27	66	57.02	138	
Number of weeks employed during 12-month period									0.051
below 46 weeks									
Full-time	13.68	136	17.51	174	27.97	278	40.85	406	
	12.11	127	13.73	144	30.70	322	43.47	456	
Parent read/talked about book with child in past month									0.139
Not once									
1-2 times	13.68	13	14.74	14	34.74	33	36.84	35	
once a week	14.36	28	13.33	26	31.28	61	41.03	8012	
several times a week	11.04	34	17.86	55	29.55	91	41.56	8	
every day	11.25	88	13.68	107	28.90	226	46.16	361	
	15.11	100	17.52	116	28.55	189	38.82	257	
Continuous variables	<i>Mean</i>	<i>Std.</i>	<i>Mean</i>	<i>Std.</i>	<i>Mean</i>	<i>Std.</i>	<i>Mean</i>	<i>Std.</i>	<i>Anova (F)</i>
Mother's age	34.70	6.40	33.94	5.98	34.51	6.03	34.90	6.04	2.03 (0.1079)
Number of people in household	3.10	1.55	2.93	1.50	2.90	1.43	2.76	1.36	4.88 (0.0022)

Chi square tests and were conducted to examine the relationship between child reading skills and the independent and control variables (See Table 3- Reading Skills Bivariate).

Children of renters (N=1278) and children residing in free housing (N=114) were more likely than children of homeowners (N=602) to report below average reading skills ($X^2 (6, N = 1994) = 89.36, p = 0.000$). Reading skills were also significantly associated with child gender, race, mother's education, and mother's age. Among the sample, females (N=988) were more likely to report excellent reading scores than males (N=1056). Children of African American (N=979) and Hispanic (N=508) descent were more likely than children of Caucasian (N=479) descent to report poor reading skills ($X^2 (9, N = 2041) = 69.82, p = 0.000$). Children with mother's who

earned a college degree or higher (N=796) reported significantly higher reading skills compared to those children of mother's that reported earning a high school diploma or below

(X^2 (9, N = 2042) = 112.22, $p = 0.000$).

Table 3. Characteristics of respondents by reading skills

Variables	Poor (N= 329)		Below Average (N=304)		Average (N=414)		Excellent (N=997)		Chi-square test
<i>Categorical variables</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>P</i>
Housing Status									
Free	19.30	22	14.04	16	23.68	27	42.98	49	0.000
Rent	19.09	244	17.14	219	21.21	271	42.57	544	
Own	8.64	52	9.97	60	16.78	101	64.62	389	
Child Gender									0.000
Female	12.65	125	13.26	131	21.46	212	52.63	520	0.000
Male	19.32	204	16.38	173	19.13	202	45.17	477	
Race of mother									0.000
White	8.14	39	18.86	112	23.74	141	61.38	294	
African American	20.94	205	15.80	103	19.79	129	42.39	415	
Hispanic	14.96	76	12.45	69	19.49	108	47.05	239	
Other	12	9	8.26	20	14.46	35	62.67	47	
Nativity									0.670
Born in US	16.32	286	14.61	256	20.15	353	48.92	857	
Born outside of US	14.24	41	16.67	48	21.18	61	47.92	138	0.000
Mother's Education									
less than high school	20.20	120	18.86	112	23.74	141	37.21	221	
High school	19.94	130	15.80	103	19.79	129	44.48	290	
some college	12.09	67	12.45	69	19.49	108	55.96	310	0.322
college degree+	4.96	12	8.26	20	14.46	35	72.31	175	
Number of weeks employed during 12- month period									0.257
below 46 weeks	16.78	167	16.08	160	19.60	195	47.54	473	
Full-time	15.44	162	13.73	144	20.88	219	49.95	524	
Parent read/talked about book with child in past month									0.257
Not once	13.68	13	16.84	16	25.26	24	44.21	42	
1-2 times	16.06	31	13.99	27	21.24	41	48.70	94	
once a week	14.61	45	12.66	39	22.73	70	50.00	154	
several times a week	15.18	119	15.43	121	17.35	6	52.04	408	
every day	18.25	121	15.08	100	21.57	143	45.10	299	

<i>Continuous variables</i>	<i>Mean</i>	<i>Std.</i>	<i>Mean</i>	<i>Std.</i>	<i>Mean</i>	<i>Std.</i>	<i>Mean</i>	<i>Std.</i>	<i>Anova (F)</i>
Mother's age	34.16	6.02	33.85	5.92	34.04	5.91	35.21	6.16	6.74 (0.0002)
Number of people in household	2.97	1.48	3.12	1.54	2.84	1.42	2.76	1.37	5.06 (0.0017)

A One-Way Analysis of Variance was conducted to determine if standard scores on the Peabody Vocabulary test differed between the three housing status groups. There was a statistically significant difference in vocabulary scores between housing status groups as determined by one-way ANOVA ($F(2,1974) = 102.31, p = 0.000$). Post-hoc comparisons found that children of homeowners ($M=101.06$) displayed the highest mean scores compared to those residing in free ($M=93.63$) and rental housing ($M=90.82$). There was not a statistically significant mean difference between the rental and free groups, but there was a statistically significant mean difference between the free and own groups and the rental and own groups. Regarding parental involvement in a child's education, a chi square analysis found that mothers residing in rental housing were more likely to read and talk about books with their children compared to homeowners or those mothers residing in free housing. A t test indicated that there was not a significant association between child gender and Peabody scores ($t(2021) = 0.592, p = 0.553$); however, males reported a slightly higher Peabody score ($M=94.11$) than females ($M=93.72$).

OLS Regression

An OLS regression model was conducted and found to be significant ($f(20) = 34.74, p < 0.000, R^2 = 0.2668$). The variables included in the model are statistically associated with vocabulary skills (See Table 4- OLS Regression Analysis of Children's Vocabulary Scores).

The adjusted r square indicates that 26.68 % of the variance in child's vocabulary scores are explained by these variables. In the model, a child's housing status was no longer statistically associated with vocabulary skills; however, poverty, number of people in household, mother's race, citizenship status, and mother's education were all statistically significantly associated with vocabulary skills.

Poverty was associated with vocabulary scores with children residing in poorer scoring lower than their peers. When compared to children with a poverty category of below 100% of the federal poverty line, children with a poverty category of below 200% reported a 3-unit increase in vocabulary scores ($B = 3.14$, $t(20) = 3.93$, $p = 0.000$). When compared to children with a poverty category of below 100% of the federal poverty line, children with a poverty category of below 300% reported a 4-unit increase in vocabulary scores ($B = 4.06$, $t(20) = 3.89$, $p = 0.000$). When compared to children with a poverty category of below 100% of the federal poverty line, children with a poverty category of 300+ reported a 7.3-unit increase in vocabulary scores ($B = 7.30$, $t(20) = 6.49$, $p = 0.000$). For every additional person living in the household, there was a 0.57-unit decrease in children's vocabulary scores ($B = -0.574$, $t(20) = -2.56$, $p = 0.010$). Children with mother's who identified as Caucasian were more likely to report higher vocabulary scores. When compared to children with mother's that identify as Caucasian, children of mother's that identify as African American reported a 7.7-unit decrease in vocabulary scores ($B = -7.71$, $t(20) = -9.04$, $p = 0.000$) while children of mother's that identify as Hispanic reported a 5.3-unit decrease ($B = -5.30$, $t(20) = -5.30$, $p = 0.000$).

Mother's nativity was significantly associated with a children's vocabulary scores. Children with mother's that were born outside of the United States experienced a 2.6-unit decrease in vocabulary scores when compared to children whose mother was born in the United

States ($B = -2.69$, $t(20) = -2.57$, $p = 0.010$). Children whose mothers reported lower educational attainment were also more likely to report low vocabulary skills. Children with mothers that obtained a high school diploma reported a 2.4-unit increase in vocabulary scores when compared to children with mothers that obtained less than a high school degree ($B = 2.42$, $t(20) = 3.01$, $p = 0.003$). When compared with children that obtained less than a high school degree, children with mother's who obtained some college experienced a 6.5-unit increase in vocabulary scores ($B = 6.58$, $t(20) = 7.24$, $p = 0.000$) while children with mother's who obtained a college degree reported a 10.3-unit increase ($B = 10.37$, $t(20) = 7.70$, $p = 0.000$).

The data suggests that there is an association between housing instability and literacy skills. The findings show that the independent and control measures were independently associated with vocabulary, reading, and spelling skills. Residing in rental housing was significantly associated with below average reading, vocabulary, and spelling skills. Children of homeowners displayed overall higher literacy skills compared to children of renters and children residing in free housing.

Table 4. OLS Regression Analysis of Children's Vocabulary Scores

Parameter	B	SE	t	p
Housing status (free=0)				
Rent	-1.68	1.33	-1.26	0.20
Own	-0.48	1.47	-0.33	0.74
Gender (female=1; male=0)	-0.46	0.60	-0.76	0.44
Mother age	0.03	0.57	0.63	0.527
Mother race (White=0)				
Black	-7.71	0.85	-9.04	.0001
Hispanic	-5.30	1.00	-5.30	.0001
Other	1.38	1.75	0.79	0.429
Nativity (native =0; foreign-born =1)	-2.69	1.04	-2.57	0.01
Mother education (less HS =0)				
High school	2.42	0.80	3.01	.003

Some college	6.58	0.90	7.24	.0001
College	10.37	1.34	7.70	.0001
Mother employment (below 46 weeks =0)	-0.11	0.64	-0.18	0.85
Household poverty (0-99% =0)				
100-199%	3.14	0.79	3.93	.0001
200-200%	4.06	1.04	3.89	.0001
300+ %	7.30	1.12	6.49	.0001
Number in household	-0.57	0.22	-2.56	0.01
Parent read/talked about book with child in past month (never =0)				
1-2 times	-2.74	-1.72	-1.59	0.11
Once a week	-3.36	1.62	-2.07	0.038
Several times a week	-2.77	1.51	-1.83	0.067
Every day	-2.81	1.52	-1.84	0.065

N=1855; Adj $R^2 = 0.2668$; F (20, N=1834) 34.74, p=0.0001

Chapter 5: Discussion

The present study sought to understand the relationship between housing instability and literacy skills among a sample of 9-year-old participants of the Fragile Families and Child Wellbeing Study. The aims of the study were to examine child and parental factors associated with literacy skills and to determine if housing instability affects literacy skills by analyzing teacher and researcher assessments of reading, spelling, and vocabulary skills. The results indicate that there is an association between housing instability and literacy skills; however, the nature of this study is correlational and cannot indicate a causal relationship between housing instability and a child's literacy skills.

The findings of this study align with the Ecological perspective because they illuminate the importance of housing as a predictor of literacy achievement. According to Bronfenbrenner (1979), there is a reciprocity between an individual and their environment. The ecological environment extends beyond an individual's immediate surroundings to systems of larger society. Therefore, a persistent issue in the housing domain of a child's life can trigger issues in other domains, such as the educational system. Additionally, issues of larger society, such as poverty, can negatively affect a child's immediate environment, as well as overall childhood outcomes.

The findings indicate that children of African American and Hispanic descent experience significant lower literacy skills compared to children of Caucasian descent. These findings can likely be explained by differences in socioeconomic status and the differing learning opportunities afforded to children based on that status. The United States has one of the most unequal educational systems in the world, with the wealthiest school districts receiving the most funding. People of color have been historically oppressed and are more likely to reside in poor,

urban neighborhoods with poor school districts (Wei, Xiao, Simon, Liu, & Ni, 2018); however, the results may not be nationally generalizable due to the overrepresentation of people of color in the sample.

The findings also indicate that household income has a significant relationship with literacy skills. When compared to children in the lowest poverty category, all other children reported significant increases in literacy skills. These findings can likely be attributed to the stability associated with higher household income, as individuals with higher incomes are more likely to report homeownership, stable employment, and good neighborhood conditions. Likewise, children and families living in poverty are more likely to report poor neighborhood conditions, lower educational attainment, high rates of residential mobility, and poor health all of which have been negatively associated with child outcomes (Desmond & Kimbro, 2015).

Vocabulary skills were significantly associated with parent nativity; however, reading and spelling skills were not. The Fragile Families study captured vocabulary using the Peabody Vocabulary Test. Vocabulary is essential for teaching and learning a foreign language because it is the basis for the development of all other skills. Deficits in vocabulary skills are likely due to differences between languages and difficulties in translation and pronunciation. Children that speak several languages may experience lower vocabulary skills because of limited parental English fluency. They may also face challenges in school due to language barriers (Hernandez, Denton, & Macartney, 2008). Children with immigrant parents are also more likely to experience poverty which is negatively associated with vocabulary skills.

Gender was significantly associated with reading, spelling, and vocabulary skills. Among the sample, females were more likely than males to display excellent reading skills while males

were more likely than females to display excellent spelling skills. There was not a statistically significant relationship between gender and vocabulary skills as indicated by a t-test.

Educational differences between genders have been widely studied and research shows that females outperform males in literacy achievement. The gender gap in reading achievement has been associated with differences in maturation and cognitive abilities, as well as gender stereotyping of reading as a feminine trait (Riley, Neumann, & Andrews, 2019). But there is a consensus that there is not a significant difference in overall intelligence between males and females (Halpern, 2000). Additionally, research finds that many gender differences are small in magnitude.

A large household size was also found to decrease literacy skills. For every additional person living in the household, there was a significant decrease in reading, spelling, and vocabulary skills. Research indicates that household overcrowding can significantly lower educational attainment for children. Children living in crowded homes have difficulties finding places to study and are more likely to report that they have trouble concentrating (Gove, Hughes, & Galle, 1979). Having many people in one household also leaves little room for social development in children, with children being exposed to constant stressors, overstimulation, and a lack of privacy (Lopoo & London, 2016).

Children with mothers that obtained a high school degree and above experienced significant increases in literacy skills. Parental educational attainment has been found to be a predictor of child outcomes, as children whose parents did not receive a high school degree are more likely to experience poverty, as well as negative educational, behavioral, and health outcomes (Benner, Boyle, & Sadler, 2016). Parental academic achievement is especially

important for disadvantaged youth because it can affect parental involvement in educational outcomes as well as future occupational success.

Implications for Social Work

Research suggests that housing is not only critical for meeting children's basic needs; it can be a platform for improving educational outcomes. Bivariate analysis suggests that there is a relationship between housing and literacy. Understanding this relationship can aid in the development of future educational interventions and can inform the decisions made by social workers and educators. This study found that housing instability, mother's education and household income are mutable factors of interest for school social workers.

The overall findings of this study illuminate the fact that poverty and housing instability continue to be pressing issues in the United States. Poverty is a significant predictor of child outcomes and it is associated with almost every domain of life. It has been found to negatively affect housing, educational attainment, and health. It is also a contributor to periods of chronic stress. Educational reform policy should focus on poverty and housing because of their negative association with the educational system. Current U.S. housing policy overwhelmingly favors the wealthy and future policy should focus on addressing issues such as poverty, race and educational attainment because of their association with instances of instability.

Limitations

This study utilized secondary data that was collected in 2007 from participants residing in major U.S. cities. The data cannot be considered recent, as data collection occurred more than ten years ago. The climate of the United States changes with each passing year and the issues, policies, and guidelines inherent within U.S. society in 2007 may not be as relevant today.

Additionally, the data was not weighted therefore the results may not be nationally generalizable. The overrepresentation of African American women in the Fragile Families Study, the limited sample size in each urban city, and participant differences across sample cities may also contribute to results not being representative of the wider U.S. population.

This study excluded both father's and non-parental caregivers from this study because a majority of the focal child's primary caregivers were identified as the biological mother. These participants were also excluded because the process of cleaning data from the father and non-parental caregivers survey would have been too lengthy a process for the time frame of this study. Additionally, the present study did not address missing data because data imputation was beyond the scope of this thesis.

The present study did not include marital status and child race as demographics for the sample population. Marital status could not be captured due to the exclusion of "single" as an option for relationship status. Additionally, the Fragile Families study did not explicitly ask about marital and/or relationship status. Instead researchers focused on the relationship between the focal child's biological mother and father. Child race could not be captured due to the exclusion of race information in the publicly available data set. Therefore, the present study measured race using race information provided for the biological mother.

Lastly, the Fragile Families and Child Well-being study did not interview individuals that did not speak English nor did they interview mothers who were under the age of 18. This excludes a significant number of parents from participating in the study. Therefore, data is not representative of the entire United States population because the study only included those individuals that reported English as their first language and who were over the age of 18.

Chapter 6: Conclusion

In conclusion, it is important to reiterate that the nature of this study is correlational, and that it cannot indicate a causal relationship between housing instability and a child's literacy skills. The present study aimed to determine relationship between literacy skills and the independent and control variables. The independent variable of this study was housing status, and the control variables were mother's age, child gender, household size, nativity, mother's education, mother's race, and household income. By analyzing the relationship between housing instability and literacy skills, this thesis has shown how housing instability can affect childhood literacy. Household income, number of people in household, mother's race, citizenship status, and mother's education were also significantly associated with literacy skills as indicated by statistical analysis. It can be concluded that these issues are important factors to consider in the creation of future interventions and policy.

Results highlight the significant relationship between housing instability and literacy and underscore the importance of housing as a predictor of long-term educational outcomes. Future research should consider analyzing multiple aspects of housing instability due to the complexity of the issue. Housing instability encompasses a variety of housing issues such as residential mobility, household overcrowding, and affordability all of which can potentially influence literacy. Eviction and crowding should be of significant importance because of their current prevalence in the United States.

Research has found that housing instability can affect school attendance, school readiness, academic performance, and the likelihood that an individual will earn a high school diploma. Researchers should focus on literacy because of its importance in the development of academic skills. Literacy is a fundamental building block of learning, and intervention in early

childhood is essential for future success. Future research should build upon the results of this study by examining the effect that several forms of housing instability has on literacy skills.

There should be a focus on the relationship between housing and literacy in non-English speaking families in the United States because there is a dearth of research available for this population. Housing instability is a pressing issue in the United States that can have a significant impact on an individual's entire life because of its connection with other forms of instability.

Understanding and illuminating housing instability can pave the way for future educational success, especially among disadvantaged youth.

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